CLAIMS

1. A medical composition, comprising:

a peptide capable of being labeled with a metal and

a basic organic compound acceptable as a pharmaceutical additive.

2. The medical composition according to claim 1, wherein the composition is obtained by dissolving the peptide capable of being labeled with a metal, which is insoluble or poorly soluble in an aqueous solvent, together with the basic organic compound acceptable as a pharmaceutical additive in an aqueous solvent.

3. The medical composition according to claim 1 or 2, wherein the basic organic compound is a basic amino acid or a basic compound having an imidazole ring.

4. The medical composition according to claim 3, wherein the basic amino acid is one or more members selected from arginine, histidine, and lysine.

5. The medical composition according to claim 3, wherein the basic compound having an imidazole ring is imidazole.

6. The medical composition according to any of claims 1 to 5, wherein the peptide capable of being labeled with a metal is a peptide available as an active ingredient in a diagnostic drug or a pharmaceutical drug for therapeutic use.

7. The medical composition according to any of

claims 1 to 6, wherein the peptide capable of being labeled with a metal has 30 or less amino acid residues or a molecular weight of 4500 or less.

8. The medical composition according to any of claims 1 to 7, wherein the peptide capable of being labeled with a metal is a leukocyte-binding compound.

9. The medical composition according to any of claims 1 to 8, wherein the peptide capable of being labeled with a metal is a compound represented by chemical formula (1):

Z-Y-Leu-Phe-(X)n-Lys(NH_2)m-ε(-(R)o-(T)l-U) (1)

wherein in formula (1),

Z represents a protecting group for an amino group;

Y represents Met or Nle;

in (X)n, X represents a spacer consisting of one or more amino acids or a compound capable of being organically synthesized, and n represents 1 or 0;

in (NH_2)m, NH_2 represents an amide group serving as a protecting group for an α-carboxyl group of Lys, and m represents 1 or 0; and

in ε(-(R)o-(T)l-U), R represents Ser or Thr bound via amide bond with an ε-amino group of Lys,

o represents 1 or 0,

T represents a spacer consisting of one or more amino acids or a compound capable of being organically synthesized, l represents 1 or 0, and U represents a group capable of being labeled with a

metal,

provided that X and T may be identical or different.

10. The medical composition according to claim 9, wherein in chemical formula (1), U represents a group capable of being labeled with a metal selected from a tripeptide capable of being labeled with a metal, dipeptide-mercapto-acylate, a nitrogen-containing cyclic compound having 8 to 20 carbon atoms, a nitrogen-containing cyclic carboxylic acid compound having 8 to 20 carbon atoms, a derivative of a nitrogen-containing cyclic carboxylic acid compound having 8 to 20 carbon atoms, and alkylene-amine-carboxylic acid having 4 to 10 carbon atoms.

11. The medical composition according to claim 9 or 10, wherein in chemical formula (1), U represents a group capable of being labeled with a metal selected from -Cys-Gly-Asp, -Cys-Asp-Asp, -Cys-Asp-Gly, -Cys-Gly-Glu, -Cys-Glu-Glu, -Cys-Glu-Gly, -Cys-Gly-Asn, -Cys-Asn-Asn, -Cys-Asn-Gly, -Cys-Gly-Gln, -Cys-Gln-Gln, -Cys-Gln-Gly, -Cys-Gly-Lys, -Cys-Lys-Lys, -Cys-Lys-Gly, -Cys-Gly-Arg, -Cys-Arg-Arg, -Cys-Arg-Gly, -Asp-Asp-mercaptoacetyl, -Gly-Asp-mercaptoacetyl, -Gly-Gly-mercaptoacetyl, 1,4,7,10-tetraazacyclododecane (Cyclen), 1,4,8,11-tetraazacyclotetradecane (Cyclam), 1,4,8,12-tetraazacyclopentadecane, 1,4,8,11-tetraazacyclotetradecane-5,7-dione (Dioxocycam), 1,4,8,11-tetraazacyclotetradecane-1,4,8,11-tetraacetic

acid (TETA), 1,4,7,10-tetraazacyclododecane-N,N',N'',N'''-tetraacetic acid (DOTA), 1,4,8,11-tetraazacyclotetradecane-5,7-dione-N,N',N'',N'''-tetraacetic acid, 1,4,7,10-tetraazacyclododecane-butyric acid, 1,4,8,10-tetraazacyclododecane-butyric acid,
1,4,7,10-tetraazacyclododecane-1-aminoethylcarbamoylmethyl-4,7,10-tris[R,S]-methylacetic acid (DO3MA), 1,4,7,10-tetraazacyclododecane-1,4,7,10-α,α',α'',α'''-tetramethylacetic acid (DOTMA), ethylenediaminetetraacetic acid (EDTA), diethylenetriaminepentaacetic acid (DTPA), triethylenetetraminehexaacetic acid and ethylene glycol-(2-aminoethyl)-N,N,N',N'-tetraacetic acid (EGTA).

12. The medical composition according to any of claims 9 to 11, wherein in chemical formula (1), Z represents a formyl group.

13. The medical composition according to any of claims 1 to 12, wherein the peptide capable of being labeled with a metal is selected from N-formyl-Nle-Leu-Phe-Nle-Tyr-Lys(NH_2)-ε(-Ser-Cys-Gly-Asn),
N-formyl-Nle-Leu-Phe-Nle-Tyr-Lys(NH_2)-ε(-Ser-Cys-Gly-Asp),
N-formyl-Nle-Leu-Phe-Nle-Tyr-Lys-ε(-Ser-Cys-Asp-Asp),
N-formyl-Nle-Leu-Phe-Nle-Tyr-Lys(NH_2)-ε(-Ser-D-Arg-Asp-Cys-Asp-Asp),
N-formyl-Nle-Leu-Phe-Nle-Tyr-Lys(NH_2)-e(-Ser-D-Arg-

diethylenetriaminepentaacetic acid (DTPA)),
N-formyl-Met-Leu-Phe-Lys-ε(-Asp-Asp-mercaptoacetyl),
N-formyl-Met-Leu-Phe-Lys-ε(-Gly-Asp-mercaptoacetyl), and
N-formyl-Met-Leu-Phe-Lys-ε(-Gly-Gly-mercaptoacetyl).

14. The medical composition according to any of claims 1 to 13, wherein the composition further comprises one or more additives selected from a reductant, pH adjuster, surfactant, hydrophilic organic solvent, and stabilizer.

15. A freeze-dried medical composition characterized in that the composition is obtained by freeze-drying a medical composition according to any of claims 1 to 14.

16. A medical preparation characterized in that the preparation is obtained by labeling, with a metal, a peptide capable of being labeled with a metal in a medical composition according to any of claims 1 to 15.

17. The medical preparation according to claim 16, wherein the metal is a radioactive metal or paramagnetic metal.

18. The medical preparation according to claim 17, wherein the radioactive metal is selected from Tc-99m, In-111, Ga-67, Y-90, Sn-117m, Sm-153, Re-186, and Re-188.

19. The medical preparation according to claim 17, wherein the paramagnetic metal is selected from Gd, Fe, Mn, Cu, and Dy.

20. A method for labeling, with a metal, a

peptide capable of being labeled with a metal, comprising the steps of:

dissolving the peptide in an aqueous solvent of a basic organic compound; and then

labeling the resulting product with a metal.

21. The metal-labeling method according to claim 20, wherein the peptide capable of being labeled with a metal is a peptide insoluble or poorly soluble in an aqueous solvent.

22. The metal-labeling method according to claim 20 or 21, wherein the basic organic compound is a basic amino acid or a basic compound having an imidazole ring.

23. The metal-labeling method according to claim 22, characterized in that the basic amino acid is one or more members selected from arginine, histidine, and lysine.

24. The metal-labeling method according to claim 22, wherein the basic compound having an imidazole ring is imidazole.

25. The metal-labeling method according to any of claims 20 to 24, characterized in that the metal is a radioactive metal or paramagnetic metal.

26. The metal-labeling method according to claim 25, wherein the radioactive metal is selected from Tc-99m, In-111, Ga-67, Y-90, Sn-117m, Sm-153, Re-186, and Re-188.

27. The metal-labeling method according to claim

25. wherein the paramagnetic metal is selected from Gd, Fe, Mn, Cu, and Dy.

28. A method for producing a medical preparation comprising a metal-labeled peptide, characterized by using a metal-labeling method according to any of claims 20 to 27.